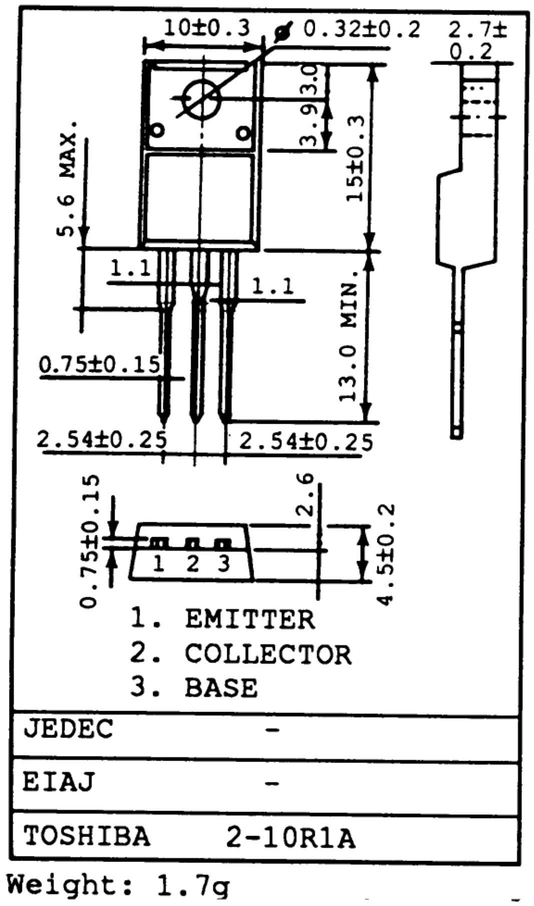
Transistor

Silicon NPN Triple Diffused Type

Audio Frequency Power Amplifier

Unit in mm



Features

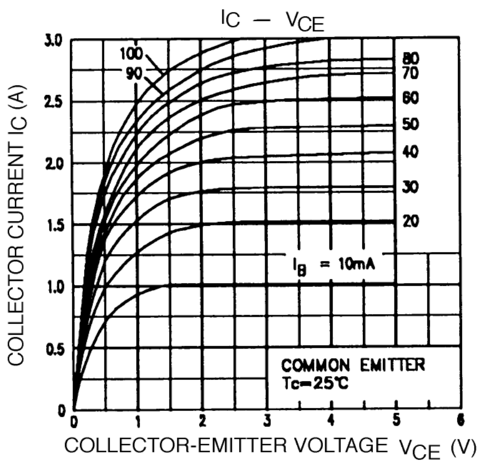
- High DC Current Gain : 100 (Min.)
- Low Saturation Voltage
  - $V_{CE\ (sat)}$ = 1.0V (Max.) (I_C = 2A, I_B = 0.2A)
- High Power Dissipation
  - P_C = 25W (Tc = 25°C)
- Collector Metal (Fin) is Covered with Mold Resin
- Complementary to 2SB1375

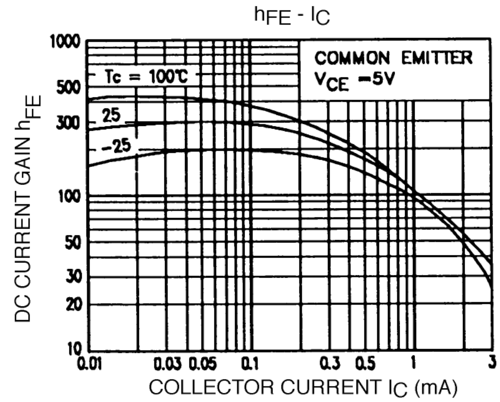
Absolute Maximum Ratings (Ta = 25°C)

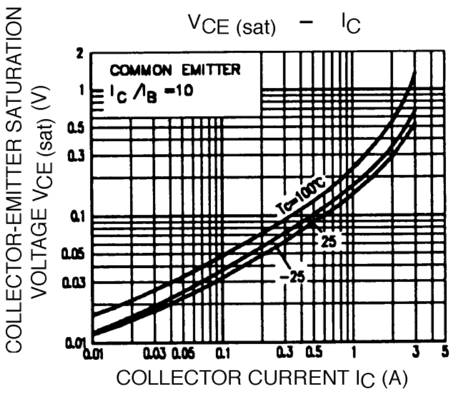
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	60	V
Collector-Emitter Voltage		V_{CEO}	60	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current		I_C	3	A
Base Current		I_B	0.5	A
Collector Power Dissipation	Ta = 25°C	P_C	2.0	W
	Tc = 25°C		25	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55 ~ 150	°C

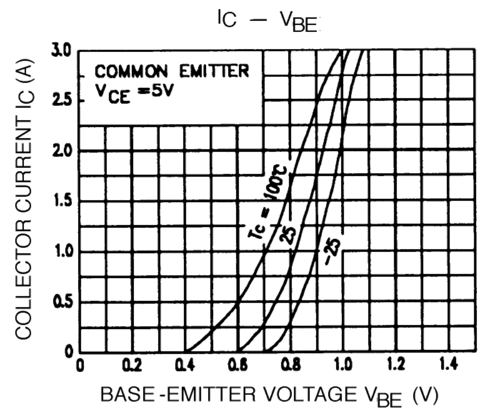
Electrical Characteristics (Ta = 25°C)

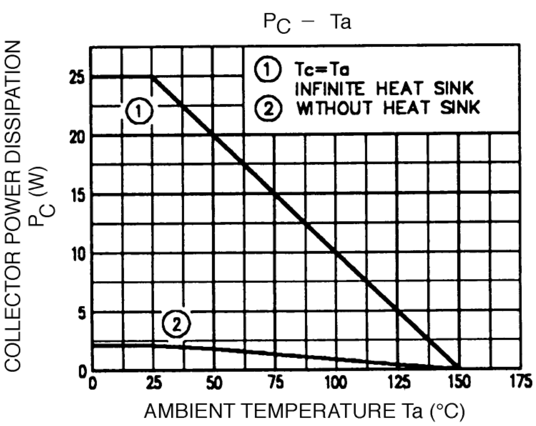
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 60V, I_E = 0	–	–	100	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 7V, I_C = 0	–	–	100	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)\ CEO)}$	I_C = 50mA, I_B = 0	60	–	–	V
DC Current Gain	$h_{FE(Note)}$	V_{CE} = 5V, I_C = -0.5mA	100	-	320	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 2A, I_B = 0.2A	–	0.4	10	V
Base-Emitter Voltage	V_{BE}	V_{CE} = 5V, I_C = 0.5A	–	0.75	1.0	V
Transition Frequency	f_T	V_{CE} = 5V, I_C = 0.5A	–	3.0	–	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	–	35	–	pF

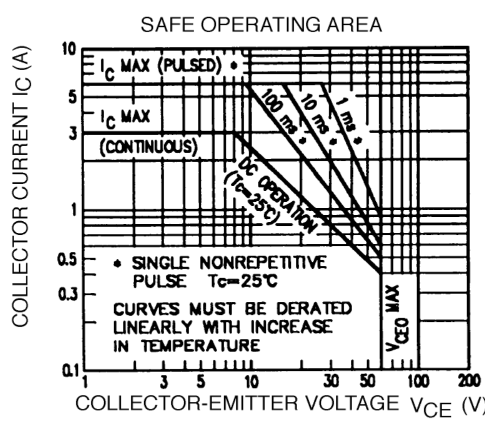

IC — VCE
COLLECTOR CURRENT IC (A)
COLLECTOR-EMITTER VOLTAGE VCE (V)
IB = 10mA
100
90
80
70
60
50
40
30
20
COMMON EMITTER
Tc=25°C

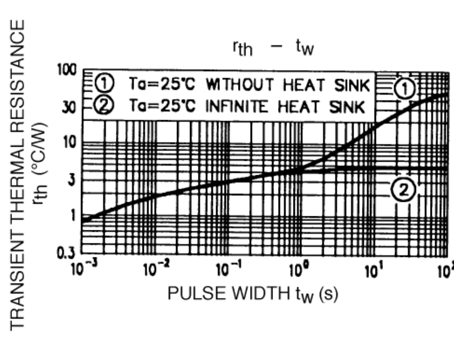

hFE - IC
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)
COMMON EMITTER
VCE =5V
Tc = 100°C
25
−25


VCE (sat) – IC
COLLECTOR-EMITTER SATURATION VOLTAGE VCE (sat) (V)
COLLECTOR CURRENT IC (A)
COMMON EMITTER
IC /IB =10
Tc=100°C
25
−25


IC — VBE
COLLECTOR CURRENT IC (A)
BASE -EMITTER VOLTAGE VBE (V)
COMMON EMITTER
VCE =5V
Tc = 100°C
25
−25


PC – Ta
COLLECTOR POWER DISSIPATION PC (W)
AMBIENT TEMPERATURE Ta (°C)
① Tc=Ta INFINITE HEAT SINK
② WITHOUT HEAT SINK


SAFE OPERATING AREA
COLLECTOR CURRENT IC (A)
COLLECTOR-EMITTER VOLTAGE VCE (V)
IC MAX (PULSED) *
IC MAX (CONTINUOUS)
100 ms *
10 ms *
1 ms *
DC OPERATION (Tc=25°C)
* SINGLE NONREPETITIVE PULSE Tc=25°C
CURVES MUST BE DERATED LINEARLY WITH INCREASE IN TEMPERATURE
VCEO MAX


rth – tw
TRANSIENT THERMAL RESISTANCE rth (°C/W)
PULSE WIDTH tw (s)
① Ta=25°C WITHOUT HEAT SINK
② Ta=25°C INFINITE HEAT SINK